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ABSTRACT

This report explains using data from the Cooperative Institutional Research Program (CIRP) to evaluate undergraduate persistence. A recent study (A. Astin and I. Oseguera) has found that two-thirds of the variation among institutions in degree completion rates is attributable to differences in their entering classes rather than to differences in the effectiveness of their undergraduate retention program. An institution can use the formulas provided in that study to complete an "expected" degree completion rate that can be compared with actual retention rates to gauge the effectiveness of student retention programs. The CIRP Freshman Survey contains all the data needed to compute expected degree completion rates. The approach is illustrated with data from the Astin and Oseguera study for 56,818 students who entered 262 4-year colleges and universities in fall 1994. (SLD)

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HIGHER EDUCATION RESEARCH INSTITUTE
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HOW "GOOD" IS YOUR RETENTION RATE?

USING THE CIRP SURVEY TO EVALUATE UNDERGRADUATE PERSISTENCE

Given the challenge of diminishing resources and the prospects of continuing enrollment growth facing institutions nationwide, colleges and universities are increasingly concerned with graduating their students (and reducing the time to graduation).

Enabling students to complete their undergraduate degrees is of fundamental importance not only to the students and their parents, but also to college and university personnel. Graduation rates are often viewed as a measure of institutional "performance" or "accountability" since high degree completion rates signify that both the institution and its students have been successful. Even the Federal government has recognized the importance of degree completion through the *Student Right to Know and Campus Security Act* which requires baccalaureate-granting colleges and universities to make public their degree completion rate.

But is it reasonable to expect similar retention outcomes for all types of institutions? A recent HERI study* using CIRP data produced the following remarkable finding: **two-thirds of the variation among institutions in their degree completion rates is attributable to differences in their entering classes rather than to differences in the effectiveness of their undergraduate retention programs**. Under these conditions, comparisons between institutions in their degree completion rates can be very misleading if the academic preparation and other characteristics of their students at the time of entry are not taken into account. Accordingly, the best way to evaluate any institution's actual degree completion rate is to compute an "expected" degree completion rate based on the characteristics of the students when they first enroll.

A National Study of Degree Attainment in America's Colleges and Universities

In this new longitudinal study, the Higher Education Research Institute (HERI) used entering data from the 1994 CIRP Freshman Survey and degree completion data provided six years later by the registrars at 262 baccalaureate-granting institutions. There were three main objectives of the study:

- To determine national degree completion rates by sex, race, and type of institution
- To identify entering student characteristics that predict degree completion
- To develop formulas that individual institutions can use to compute "expected" retention rates

Three different retention measures were used: baccalaureate completion within four years, baccalaureate completion within six years, and a third measure that counted students who were still enrolled after six years as degree completers.

The report also includes several formulas that an individual institution can utilize to compute "expected" degree attainment rates for each of these three retention outcomes. One set of formulas uses information that most institutions have readily available on their entering freshman classes: high school grade point average (HSGPA), SAT/ACT composite score, race, and gender. (Separate formulas are included for institutions that lack test data or data on students' race.)

Any institution can use these formulas to compute an "expected" degree completion rate which can be compared with its actual retention rates to gauge the effectiveness of student retention programs.

*Astin, A.W. & Oseguera, L. (2002) *Degree Attainment Rates at American Colleges and Universities*. Los Angeles: Higher Education Research Institute, UCLA. Cost $15.00. To order call (310) 825-1925 or visit the HERI webpage: www.gseis.ucla.edu/heri/heri.html

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Advantage of Being a CIRP Participant

The CIRP Freshman Survey contains all the data needed for computing expected degree completion rates based on the HSGPAs, test scores, sex, and race of entering students. However, the study also shows that substantially more accurate estimates of expected rates can be obtained by using many of the other entering characteristics included in the CIRP survey (e.g. life and degree goals, expectations about college, sources of financial aid, academic major, and self-ratings).

In fact, adding these additional CIRP variables to the equation increases the accuracy of the prediction by 57 percent for four-year completion and by 50 percent for six-year completion. Of particular interest is the fact that in these longer formulas, the test scores add very little to the prediction of four-year completion and nothing to the prediction of six-year completion. Apparently, *the other CIRP freshman variables contain virtually all of the relevant information that is contained in the SAT or ACT.* These longer formulas would be especially useful to institutions that do not require the SAT/ACT for admission.**

The results reported below are based on 56,818 students who entered 262 four-year colleges and universities in Fall 1994 and whose degree attainment and enrollment status was determined in Fall 2000. Results were statistically adjusted to reflect the entire population of freshmen entering baccalaureate-granting institutions in Fall 1994.

Major Findings of the Study

Fewer college students today are completing college in four years than was the case a decade ago. Only 36.4 percent were able to complete their bachelor's degrees within four years, compared to 39.9 percent a decade earlier and 46.7 percent in the late 1960s. The degree completion rate jumps by nearly two-thirds—to 58.8 percent—if students are allowed six years to complete college, and to 61.6 percent if those who are still enrolled after six years are counted as "completers."

Effects of Race and Sex

The highest four-year completion rates are enjoyed by Asian (38.8 percent) and white (37.6 percent) students, while the lowest rates occur among "under-represented" minority groups: Mexican-Americans (21.3 percent), American Indians (21.6 percent), Puerto Rican-Americans (23.6 percent), and African-Americans (28.9 percent). Four-year completion rates are higher for women (39.7 percent) than for men (32.6 percent) (these rates increase by 20-25 percent for each racial or gender group when six-year completion is considered, but group differences are maintained). Within each racial group, women have higher six-year degree completion rates than men do, except among American Indian students, where the rate for men is slightly higher (43.9 versus 41.1 percent for women). (See Table 1.)

Effects of Institutional Type

Four-year degree completion rates for individual institutions vary widely: from a high of 89 percent to a low of one percent. Six-year rates range from 96 percent to 18 percent. Private institutions of all types consistently show higher retention rates than do public colleges and universities, regardless of the retention measure used. The highest four-year completion rate—67.1 percent—is found among students attending private universities, whereas the lowest rate—24.3 percent—occurs among students at public colleges. The four-year completion rate for students at public universities—28.1 percent—is also substantially lower than the four-year rates for students enrolled at all types of private four-year colleges: Roman Catholic (46.4 percent), other religiously-affiliated (51.0 percent) and independent (56.3 percent). The fact that these public-private differences decline somewhat when six-year rates are used suggests that students in the public colleges and universities are taking longer to complete their degrees. (See Table 2.)

Effects of Academic Preparation

The chances of completing college in four or six years varies widely according to the student's level of academic preparation. Those who earn an "A" or "A plus" grade average in high school

TABLE 1

Six-year Degree Attainment Rates by Gender and Racial Group

	Percent Completing Bachelor's Degree Within Six Years*		
Racial Group	Women	Men	Total
White	61	57	59
African-American	54	42	50
American Indian	41	44	42
Asian-American	68	63	65
Mexican-American/Chicana/o	50	41	46
Puerto Rican-American	52	28	42
Other	60	48	54

*Figures in table have been rounded to whole numbers

**The CIRP Freshman Survey, of course, has many other uses: obtaining a detailed profile of the characteristics of an institution's new students, as a "pretest" or baseline of data for studying student change and development during college, etc. For more information regarding potential uses of this survey and of various CIRP follow-up surveys, please contact the Higher Education Research Institute at (310) 825-1925 or heri@ucla.edu.

TABLE 2

Four-year, Six-year, and Six Plus Years* Degree Attainment Rates, by Institutional Type

	Unweighted N		Weighted Percent Completing Bachelor's Degree Within**		
Institutional Type	Students	Institutions	4 years	6 years	6 plus years*
Public University	6,650	20	28	58	62
Private University	4,931	18	67	80	80
Public College	7,457	27	24	47	52
Nonsectarian College	17,610	75	56	66	67
Catholic College	5,436	38	46	60	62
Other Christian College	14,734	84	51	61	62
All Institutions	56,818	262	36	58	61

*Considers students who are still enrolled six plus years as degree completers.

**Figures in table have been rounded to whole numbers

Note: Weighted to approximate national norms for 1994 freshmen.

have four- and six-year completion rates of 58.2 and 77.5 percent, respectively, compared to rates of only 8.0 percent (four-year) and 20.0 percent (six-year) for those with "C" averages in high school. Similar differences are found with scores on standardized college admissions tests: among students whose composite score on the SAT is at least 1,300, four- and six-year completion rates are 62.3 and 76.5 percent, respectively, compared to only 18.2 and 39.8 percent for students whose composite score is less than 800. The largest differences are observed when school grades and test scores are combined: students with "A" averages *and* scores of 1300 or above have four- and six-year completion rates of 68.9 and 82.6, respectively, compared to 7.8 and 20.4 percent for students with "C" averages and test scores below 800.

These data suggest that **it would be unwise, and possibly misleading, to compare the raw degree completion rates of different institutions without taking into account the level of academic preparation of each institution's students when they first enroll**. For this reason, the report provides tables that allow individual colleges and universities to compute an "expected" degree completion rate based on the academic preparation and other characteristics of their students at the time they first enroll. When adjustments are made for these expected retention rates, institutional differences diminish substantially. For example, although the actual four-year rates of private universities are more than 40 percent higher than those of the public colleges (67.1 versus 24.3 percent), this difference diminishes to about 15 percent when *expected* rates are taken into account. Thus, when the actual degree completion rates of different types of institutions are compared after adjusting for expected rates, four year rates of public colleges and universities fall only 11 and 15 percent, respectively, below their expected rates, and the actual rates of different types of private institutions are between 2 and 6 percent *higher* than their expected rates. When six-year rates are used, the actual and expected rates for public institutions differ by only 5 percent. These results suggest that students who choose a public over a private institution will run a slightly greater risk not only of not completing their bachelor's degree, but also of taking longer to complete that degree.

Academic preparation also helps to explain many of the differences in degree completion rates among racial groups. The relatively low six-year completion rate for African-American students, for example, appears to be entirely attributable to their lower level of academic preparation.

The full report, *Degree Attainment Rates at American Colleges and Universities* (prepared by Alexander W. Astin & Leticia Oseguera), is available from the Higher Education Research Institute, Graduate School of Education and Information Studies, University of California, Los Angeles.

[For information regarding how to participate in the annual CIRP survey of entering students and/or to order a report, please contact the Higher Education Research Institute at (310) 825-1925 or at heri@ucla.edu]

Higher Education Research Institute

The Higher Education Research Institute is housed in the Graduate School of Education & Information Studies at the University of California, Los Angeles. The Institute serves as an interdisciplinary center for research, evaluation, information, policy studies, and research training in postsecondary education. HERI's research program covers a variety of topics including the outcomes of postsecondary education, leadership development, institutional transformation, faculty performance, federal and state policy, educational equity, and spirituality in higher education. Visiting scholars, faculty, and graduate students have made use of HERI facilities and research resources since its affiliation with UCLA in 1973. HERI's data management and analysis resources include a network of high-speed computers and more than a hundred datasets that are regularly maintained for analysis of postsecondary education.

Cooperative Institutional Research Program

The Cooperative Institutional Research Program (CIRP) is a national longitudinal study of the American higher education system. Established in 1966 at the American Council on Education (ACE), the CIRP is now the nation's largest and oldest empirical study of higher education, involving data on some 1,800 institutions, over 11 million students, and more than 300,000 faculty. To maximize the use of these data in research and training, the CIRP was transferred to the Graduate School of Education at UCLA in 1973, where it is administered by the Higher Education Research Institute at the University of California, Los Angeles, under the continuing sponsorship of the American Council on Education. Annually, the CIRP staff meet at ACE with the CIRP Advisory Committee to identify areas of future study and issues of concern in higher education.

The CIRP Freshman Survey

Each year some 700 two-year colleges, four-year colleges, and universities administer the Freshman Survey to over 400,000 entering students during orientation or registration. The survey covers a wide range of student characteristics: parental income and education, ethnicity, and other demographic items; financial aid; secondary school achievement and activities; educational and career plans; and values, attitudes, beliefs, and self-concept. Published each December in *The American Freshman*, the results from these surveys continue to provide a comprehensive portrait of the changing character of entering students and American society at large.

For further information about the the CIRP/HERI surveys, contact:

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